ABUS 8” Combo Digital Recorder
TVVR20000

User manual

Version 1.1

Deutsch

Diese Bedienungsanleitung enthält wichtige Hinweise zur Inbetriebnahme und Handhabung.

Achten Sie hierauf, auch wenn Sie dieses Produkt an Dritte weitergeben.

Heben Sie deshalb diese Bedienungsanleitung zum Nachlesen auf!

Eine Auflistung der Inhalte finden Sie im Inhaltsverzeichnis mit Angabe der entsprechenden Seitenzahlen.

English

These user manual contains important information for installation and operation.

This should be also noted when this product is passed on to a third party.

Therefore look after these operating instructions for future reference!

A list of contents with the corresponding page number can be found in the index.

Français

Ce mode d’emploi appartient à de produit.

Il contient des recommandations en ce qui concerne sa mise en service et sa manutention.

Veuillez en tenir compte et ceci également lorsque vous remettez le produit à des tiers. Conservez ce mode d’emploi afin de pouvoir vous documenter en temps utile!

Vous trouverez le récapitulatif des indications du contenu á la table des matières avec mention de la page correspondante.

Nederlands

Deze gebruiksaanwijzing hoort bij dit product.

Er staan belagrijke aanwijzingen in betreffende de ingebruikname en gebruik, ook als u dit product doorgeeft aan derden.

Bewaar deze hendleiding zorgvuldig, zodat u deze later nog eens kunt nalezen!

U vindt een opsomming van de inhoud in de inhoudsopgave met aanduiding van de paginanummers.

Dansk

Denne manual hører sammen med dette produkt.

Den indeholder vigtig information som skal bruges under opsætning og efterfølgende ved service.

Dette skal huskes også når produkter gives videre til anden part. Læs derfor denne manual grundigt igennem også for fremtiden.

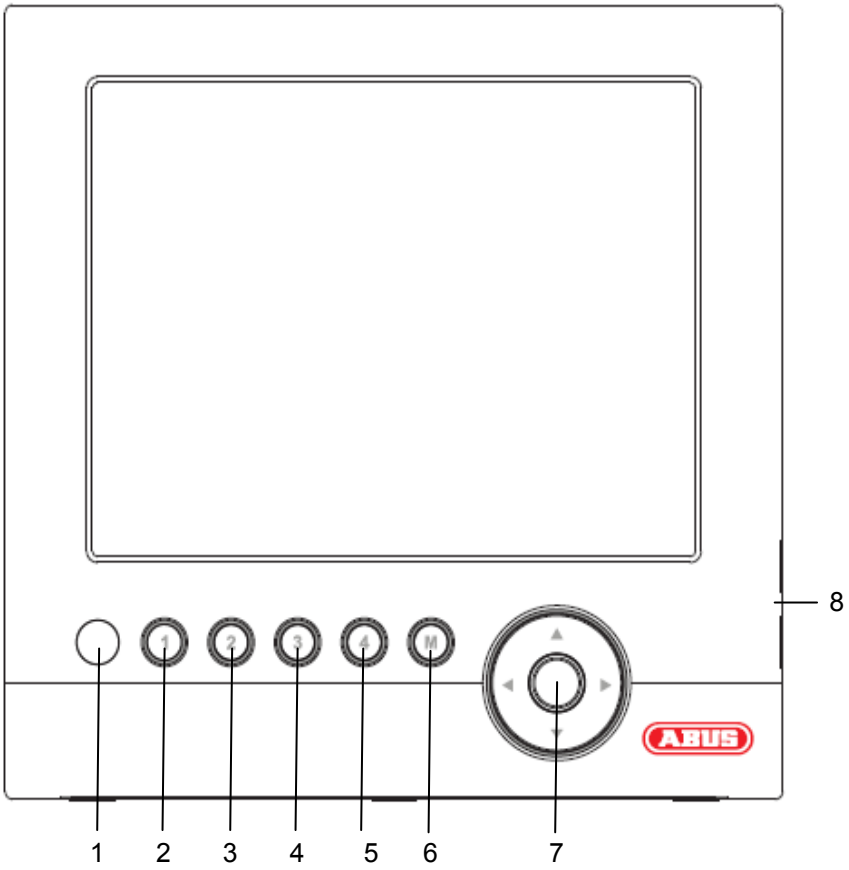
Indholdet kan ses med sideanvisninger kan findes i indekset.

i Pay attention to the accompanying documents on “Control via the web interface” and “Software”. These can also be found on the Internet under www.abus-sc.com

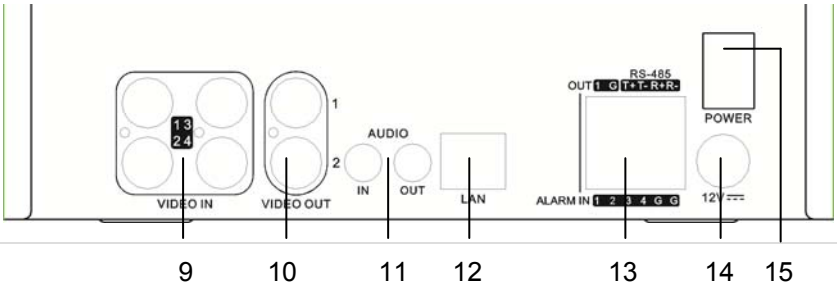
Device overview

See **System operation** on page 12.

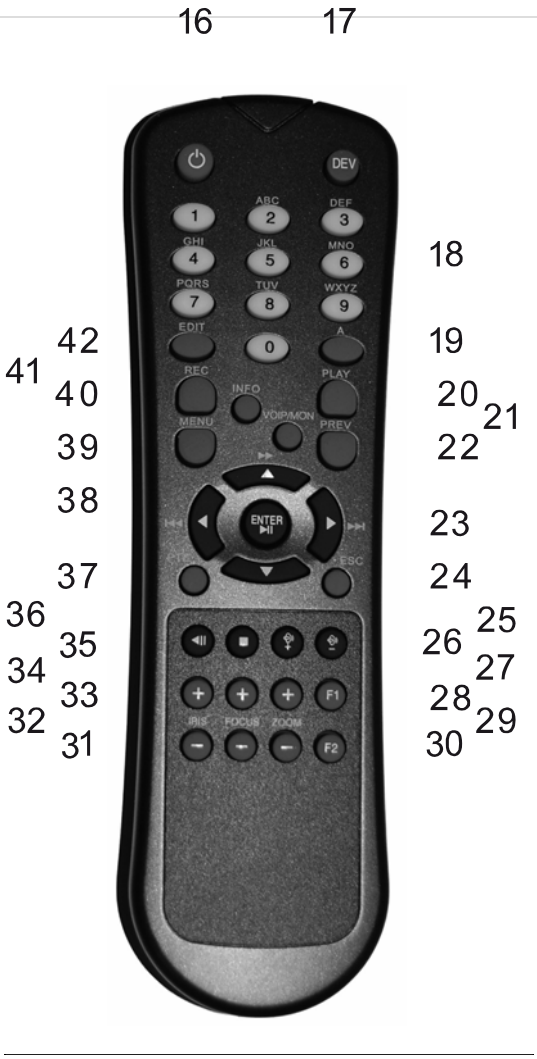
Front



Rear



Remote control



Device overview **3**

Quick guide **7**
Before you start 7
Installing the HDD 7
Establishing the connections 7

Important safety information **8**
Explanation of symbols 8
Proper use 8
General 8
Power supply 8
Overloading/Overvoltage 9
Cables 9
Installation location/Operating environment 9
Remote control 9
Care and maintenance 10
Accessories 10
Putting into operation 10
Children and the device 10

Introduction **11**
General information 11
Unpacking the device 11
Scope of delivery 11

System operation **12**
General information 12
Operating elements on the device 12
Connections on the rear of the device 12
Operating elements on the remote control 13
Mouse operation 13
Starting the device 14
On-screen keyboard 14
Displays on the monitor 14

Live view **15**
Overview 15
Pop-up menu for mouse operation 15
Settings 15
Setting the date/time 16
Setting the preview 16

Record **17**
Set-up 17
Schedule 18
Manual record 18

Playback **19**
General information 19
Using the control panel 19

PTZ control **20**
General information 20
Using the PTZ control panel 20
Pop-up menu for mouse operation 20
PTZ settings 20
Preset settings 21

Patrol settings 21
Pattern settings 22
Device menu 23
Menu overview 23
Menu description 23
Live view 24
Camera 24
Motion detection: Setting an area 24
Motion detection: Settings 24
Advanced settings 25
Recording 25
Network 25
General 25
Terms and definitions 25
Network layout 26
Network configuration 26
Alarms 29
PTZ 30
Users 30
Utilities 31
Troubleshooting 32
Index 33
Technical data 34
HDD storage capacity 35
Disposal 36
Information on the EU directive on waste electrical and electronic equipment 36
Information on handling batteries 36
Important information on disposing of batteries 36
Information on the European RoHS directive 36
Glossary 37
Overview of specialist terms 37
Internal HDD 39

Quick guide

Before you start

The following preparatory steps must be made:

1. Pay attention to the general information, safety information and notes on setting up and connecting the device (see page 8).
2. Check the contents of the package for completeness and damage.
3. Insert the batteries into the remote control.

Installing the HDD

Warning

Switch off the device and disconnect it from the mains power supply.
Pay attention to the required earthing of the device to avoid static discharge.

1. Install the HDD. Use the data and power cable supplied.
2. Firstly, establish the connection to the motherboard using the red data cable (small connector).
3. Connect the power supply cable (large 5-pin connector).
4. Check that the connections are secure.
5. Close the housing.

Establishing the connections

1. Connect the analogue cameras with BNC connections 1 to 4.
2. Connect the audio connections.
3. Connect the LAN connection on the device to the network.
4. Connect the sensors to the alarm inputs.
5. Connect the monitor to the BNC connection.
6. Connect the mouse to the USB port.
7. Establish a connection to the mains power supply.
8. Switch on the device using the POWER switch on the rear. The DVR status display on the front of the device lights up.

Note

To connect a monitor with a VGA connection, use the BNC-VGA converter (TVAC20000).

Important safety information

Explanation of symbols

The following symbols are used in this manual and on the device:

Symbol	Signal word	Meaning
	Warning	Indicates a risk of injury or health hazards.
	Warning	Indicates a risk of injury or health hazards caused by electrical voltage.
	Important	Indicates possible damage to the device/accessories.
	Note	Indicates important information.

The following labels are used in the text:

	Meaning
1. … 2. …	Set of tasks or instructions with a defined sequence in the text
• … • …	Set of points or warnings without a defined sequence in the text

Proper use

Only use the device for the purpose which it was designed and built for. Any other use is considered inappropriate.

This device may only be used for the following purpose(s):

- This digital recorder is used in combination with connected video signal sources (B/W and colour cameras) and video output devices (CRT or TFT monitors) for object surveillance.

Note

Data storage is subject to national data-protection guidelines.

During installation, inform your customers regarding the existence of these guidelines.

General

Before using the device for the first time, read the following instructions carefully and pay attention to all warnings, even if you are already familiar with electronic devices.

Warning

All guarantee claims become invalid for damage caused by non-compliance with these operating instructions.

We cannot be held liable for resulting damage.

Warning

We cannot be held liable in the event of material or personal damage caused by improper operation or non-compliance with the safety information.

All guarantee claims are invalid in such cases.

Keep this manual in a safe place for future reference.

If you pass on or sell the device, you must also include this user manual.

This device has been manufactured in accordance with international safety standards.

Power supply

- Only operate this device through a power source which supplies the mains power specified on the type plate.
- If you are unsure of the power supply at the installation location, contact your power supply company.

Warning

Avoid data loss!
Always use an uninterruptible power supply (UPS) with overvoltage protection.

- Disconnect the device from the mains power supply before carrying out maintenance or installation work.
- The on/off switch does not completely disconnect the device from the mains power supply.
- To disconnect the device completely from the mains power supply, the plug must be disconnected from the mains socket. Therefore, the device should be positioned so that direct and unobstructed access to the mains socket is guaranteed at all times and the plug can be disconnected immediately in an emergency.
- To avoid the possibility of fires, the plug should always be disconnected from the network socket if the device is not used for long periods. Disconnect the device from the mains power supply before impending electrical storms, or use an uninterruptible power supply.

Warning

Never open the device on your own! There is a risk of electric shocks!
If it is necessary to open the device, consult trained personnel or your local maintenance specialist.

- The installation or modification of a HDD should only be made by trained personnel or your local maintenance specialist.

Warning

The installation of additional equipment or modification of the device invalidates your guarantee if not carried out by trained personnel.
We recommend having the HDD installed by a maintenance specialist.
Your guarantee is invalidated in the event of improper installation of the HDD.

Overloading/Overvoltage

- Avoid overloading of mains sockets, extension cables and adapters as this can result in fires or electric shocks.
- Use overvoltage protection to prevent damage caused by overvoltage (e.g. electrical storms).

Cables

- Always hold cables by the connector, and do not pull the cable itself.
- Never touch the mains cable with wet hands, as this can lead to a short circuit or electric shock.
- Never position the device, furniture or other heavy items on the cable. Ensure that the cable does not become kinked, especially on the connector and sockets.
- Never knot the cable, and do not tie it to other cables.
- All cables should be laid so that they cannot be stepped on or cause an obstruction.
- A damaged mains cable can cause a fire or electric shock. Check the mains cable from time to time.
- Never modify or manipulate the mains cable or plug.
- Do not use plug adapters or extension cables that do not conform to the applicable safety standards, and do not make alterations to power supply cables or mains cables.

Installation location/Operating environment

- Position the device on a firm, level surface and do not place any heavy objects on the device.
- The device is not designed for operation in rooms subject to high temperatures or moisture (e.g. bathrooms), or in excessively dusty rooms.
- Operating temperature and ambient humidity:
  -10 °C to 55 °C, maximum 85 % relative humidity.
  The device may only be operated in moderate climate conditions.

Ensure the following:

- Sufficient ventilation must be present at all times (do not place the device in a storage rack, on thick carpets, on a bed or anywhere where the ventilation slots are covered. Make sure that a gap of at least 10 cm is present on all sides).
- The device must not be exposed to direct heat sources (e.g. heaters).
- The device must not be exposed to direct sunlight or strong artificial light.
- The device must not be placed in close proximity to magnetic fields (e.g. loudspeakers).
- Naked flames (e.g. candles) must not be placed on or near the device.
- Contact with spraying or dripping water and aggressive liquids must be avoided.
- The device must not be operated in close proximity to water, and must not be submerged under any circumstances (do not place objects containing water on or near the device, such as vases or drinks).
- Foreign objects must not penetrate the device.
- The device must not be exposed to strong variations in temperature, as this can lead to condensation and electrical short circuits.
- The device must not be exposed to excessive jolts or vibrations.

Remote control

- Remove all batteries if the device will not be used for a sustained period, as these can leak and damage the device.

Care and maintenance

Maintenance is necessary if the device has been damaged. This includes damage to the plug, mains cable and housing, penetration of the interior by liquids or foreign objects, exposure to rain or moisture or when the device does not work properly or has fallen.

- Disconnect the device from the mains power supply before maintenance (e.g. cleaning).
- If smoke develops or unusual noises or odours are detected, then switch off the device immediately and pull the mains plug from the socket. In such cases, the device should not be used until it has been inspected by a qualified technician.
- Maintenance work should only be carried out by qualified specialists.
- Never open the housing on the device or accessories. There is a risk of fatal injury due to an electric shock when the housing is opened.
- Clean the device housing and remote control with a damp cloth.
- Do not use solvents, white spirit or thinners as these can damage the surface of the device.
- Do not use any of the following substances:
- Salt water, insecticides, solvents containing chlorine or acids (ammonium chloride) or scouring powder.
- Gently rub the surface with a cotton cloth until it is completely dry.

Warning

The device works under dangerous voltages. The device must only be opened by authorised specialists. All maintenance and service work must be carried out by authorised firms. Improper repairs can expose device users to the risk of fatal injury.

Accessories

- Only connect devices that are suitable for the intended purpose. Otherwise, hazardous situations or damage to the device can occur.

Putting into operation

- Observe all safety and operating instructions before putting the device into operation for the first time.
- Only open the housing to install the HDD.

Warning

When installing the device in an existing video surveillance system, ensure that all devices are disconnected from the mains power supply and low-voltage circuit.

Warning

If in doubt, have a specialist technician carry out assembly, installation and connection of the device.

Improper or unprofessional work on the mains power supply or domestic installation puts both you and other persons at risk.

Connect the installations so that the mains power circuit and low-voltage circuit always run separately from each other. They should not be connected at any point or become connected as a result of a malfunction.

Children and the device

- Do not allow children access to electrical devices. Never allow children to use electrical devices without supervision. Children may not be able to accurately detect possible risks. Small parts can be life-threatening if swallowed.
- Keep batteries away from small children. Call for medical assistance immediately if a battery is swallowed.
- Keep packaging materials away from children (danger of suffocation).
- This device should not be used by children. If used improperly, spring-loaded parts can be ejected and cause injuries to children (e.g. eye injuries).

Introduction

Dear customer,

Thank you for purchasing this product.

This product complies with current domestic and European regulations. Conformity has been proven, and all related certifications are available from the manufacturer on request (www.abus-sc.com).

To maintain this status and to guarantee safe operation, it is your obligation to observe these operating instructions!

Read the entire operating manual carefully before putting the product into operation and pay attention to all operating and safety information!

All company names and product descriptions are trademarks of the corresponding owner. All rights reserved.

In the event of questions, please contact your local maintenance specialist or dealer.

Disclaimer

These operating instructions have been produced with the greatest care. Should you discover any missing information or inaccuracies, please contact us under the address shown on the back of the manual. ABUS Security-Center GmbH does not accept any liability for technical and typographical errors, and reserves the right to make changes to the product and operating instructions at any time and without prior warning. ABUS Security-Center GmbH is not liable or responsible for direct or indirect damage resulting from the equipment, performance and use of this product. No forms of guarantee are accepted for the contents of this document.

General information

In order to use the device correctly, read this user manual carefully and keep it in a safe place for later use.

This manual contains instructions on recorder operation and maintenance. Consult an authorised specialist if the device needs to be repaired.

Unpacking the device

Handle the device with extreme care when unpacking it.

The packaging is made of reusable materials, and should always be passed on for recycling.

We recommend the following:

Paper, plastic packaging, cardboard and corrugated cardboard should be disposed of in the appropriate recycling containers.

If recycling containers are not available in your local area, then you can dispose of these materials as domestic waste.

If the original packaging has been damaged, inspect the device. If the device shows signs of damage, then return it in the original packaging and contact the manufacturer.

Scope of delivery

- ABUS Digital Recorder
- Power supply unit and mains cable
- Remote control (without batteries)
- Connection cable for HDD
- Software CD
- User manual

System operation

General information

The device can be controlled as follows:

- By remote control
- Using the USB mouse

Operating elements on the device

Note
Pay attention to the overview on page 3.

No.	Name Function
1	**IR receiver** For the remote control
2	**1:** Switch to camera input 1
3	**2:** Switch to camera input 2
4	**3:** Switch to camera input 3
5	**4:** Switch to camera input 4
6	**M** Opens or exits menu

Connections on the rear of the device

Note
Pay attention to the overview on page 3.

No.	Name Function
7	**Navigation buttons:** Move within the menu **OK:** • Confirm in menu • Press and hold for 5 seconds in live view to activate or deactivate key lock
8	**USB port** • To connect a USB mouse • To connect a USB stick for data backups
9	**VIDEO IN**: BNC inputs
10	**VIDEO OUT 1:** BNC monitor output **VIDEO OUT 2:** BNC spot monitor output
11	**AUDIO IN:** Cinch audio input **AUDIO OUT:** Cinch audio output
12	**LAN:** 10/100 MBit Ethernet LAN connection
13	**ALARM IN:** • Alarm input 1–4 • G = Ground **ALARM OUT:** • Relay output and ground **RS-485:** Connection for PTZ cameras
14	**12 V DC power socket**
15	**Power switch**

Operating elements on the remote control

Note

Pay attention to the remote control diagram on page 4.

No.	Name Function
16	⏻ POWER On/Off switch
17	**DEV** Assigns the remote control with the device ID
18	**Alphanumeric keys** • For selecting the camera (channel) in the live view • For entering letters and digits in system fields
19	**A** • Changes the entry format (upper/lower case, symbols, digits) • Further symbols can be displayed by pressing the “0” button in symbol mode.
20	**PLAY** Starts playback
21	**VOIP** Not used
22	**PREV** Changes the screen display in the live view
23	**Navigation keys** During playback: • ▲, ▼Sets the speed • ◀, ▶Previous/next day In PTZ: • Camera control In menus: • Navigation
24	**ESC** • Exits menu
25	Not used
26	Not used
27	**Zoom +:** Enlarges the image section in PTZ mode
28	**F1:** Not used
29	**Zoom -:** Reduces the image section in PTZ mode
30	**F2:** Not used
31	**IRIS-**: In PTZ mode: • Closes the iris
32	**Focus-**: In PTZ mode: • Reduces the image section in PTZ mode
33	**IRIS+**: In PTZ mode: • Opens the iris
34	**Focus+**: In PTZ mode: • Enlarges the image section in PTZ mode
35	Not used
36	Not used
37	**PTZ** Switches on PTZ control
38	**Enter** key ▶II • Confirms the selection • Ticks/unticks the boxes During playback: • PLAY/PAUSE
39	**MENU** • Calls up the main menu • Switches the key tones on and off (press and hold down for 5 seconds)
40	**REC** Opens/starts manual recording
41	Not used
42	Deletes character during entry

Mouse operation

Note

Further descriptions in these operating instructions can be accessed with the mouse.

The device is suitable for use with a USB mouse. Connect the mouse to the USB port.

Button	Function
Left	Single-click • Selection in menu, activation of an entry field or tab Double-click • Switches between the screen display of single and multiple images in the live view and during playback Click and drag • In PTZ mode: Camera control • Set-up of alarm areas or zones
Right	Single-click • Calls up the pop-up menu
Scroll wheel	In full-screen live view • Shows previous/next camera In menus: • Selects/changes settings

Starting the device

Important

The device must only be operated with the mains power specified on the type plate.

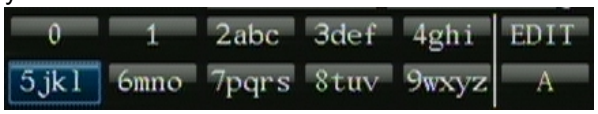
For safety reasons, use an uninterruptible power supply (UPS).

After the device has been connected to the power supply and the main switch on the rear of the device is switched on, the power LED lights up.

The device carries out a self-test during the start-up procedure.

On-screen keyboard

The on-screen keyboard appears after clicking on a text entry field with the mouse:



The keys have a similar function as on a mobile phone.

- Each key has more than one character.
- Pressing the “**A**” key scrolls through the following modes:
  - Numbers
  - Uppercase
  - Lowercase
  - Special characters
    (press the “0” key to display further symbols)
- Press the same key repeatedly to get the character you require.
- To delete the character in front of the cursor, click on “**EDIT**”.

Displays on the monitor

The device shows the date and time, camera name and whether a recording is in progress.

- Continuous recording: Blue “R”
- Event recording: Red “R”

Password

Warning

Note down the admin password.
The following password is preset

“1 2 3 4 5”

Live view

Overview

The live view starts automatically after the device is switched on.

The signals of the connected cameras are displayed on the main screen.

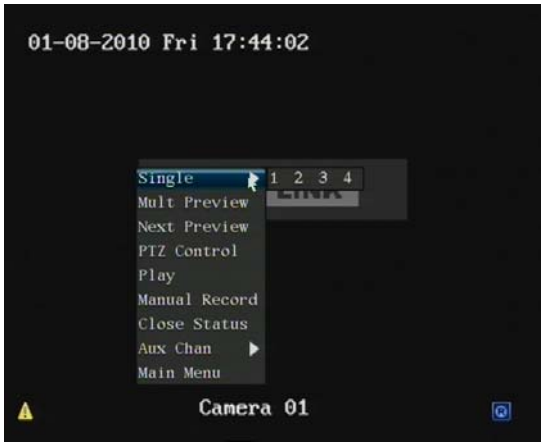
- By double-clicking the left mouse key, you can display the camera image as a full-screen view or switch back to the original view.

Pop-up menu for mouse operation

Note

Press the right mouse button when the cursor is positioned on a live image.

The following settings can be made. The arrow pointing to the right indicates that a sub-menu is opened for selection:



Single	Full-screen view for selected camera
Mult Preview	4x camera view
Next Preview	Displays the next camera in full-screen view
PTZ Control	Activates PTZ mode
Play	Switches to playback mode
Manual Record	Starts/finishes recording
Close Status	Opens/closes the recording status symbol
Aux Chan	Displays camera on the Aux chan
Main menu	Opens the main menu

Settings

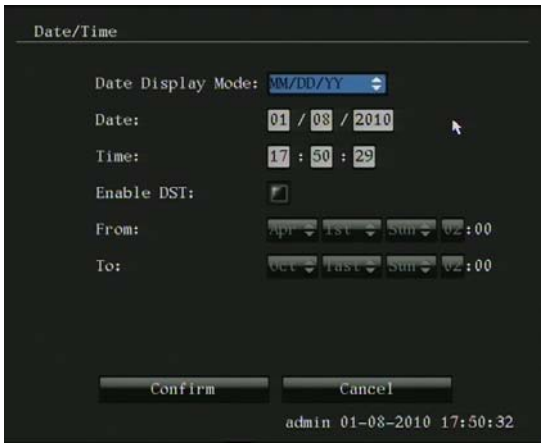
Note

The live view can be set as follows.

Open the main menu and click on Display:

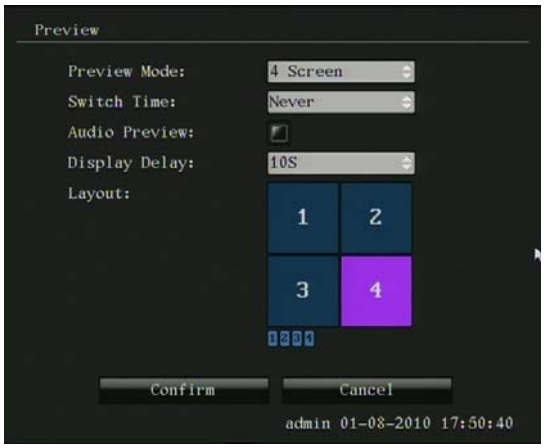
Language	User interface language
Device ID	Used for unique identification when using remote control
Require Password	Activates/deactivates password prompt (when accessing via the network, the password is still needed despite deactivation)
Screen Saver:	Sets the time of inactivity after that the monitor is turned off.
Video Standard	PAL/NTSC
Menu Transparency	Transparency of the main menu
Date/Time	Time, date and DST
Preview	Stop Auto-switch, camera identification

Setting the date/time



Date Display Mode	DD/MM/YY, MM/DD/YY, YY/MM/DD
Date	To enter the day, month and year
Time	To enter the hour, minute and second
Enable DST	Daylight Saving Time Bias: Correction of the DST to the reference time
From	DST starts
To	DST ends

Setting the preview

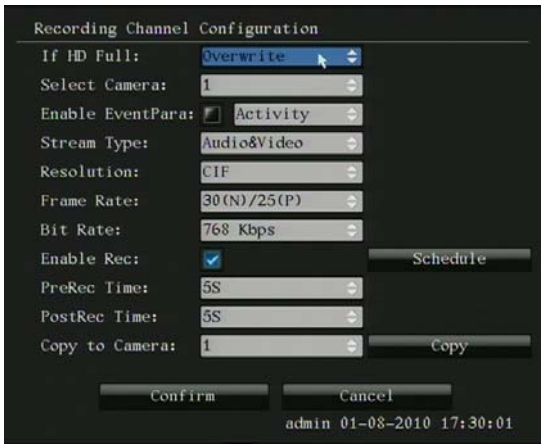


Preview	Default setting in the preview: Full-screen, 4x view
Switch Time	Switch time between the cameras in the full-screen view: Never, 5 seconds .. 30 minutes
Audio Preview	Audio output during the full-screen view
Display Delay	Time the triggering camera is displayed as a full-screen image if an event occurs
Layout	Changes the camera layout in the preview

Record

Set-up

Open the main menu and click on Record:



If HDD Full	Overwrites or finishes recording
Select Camera	Camera to be set
Enable Event-Para	Select this item to record events (motion detection or alarm)
Stream 1/ Stream 2	Stream 1 = Parameter for continuous recording Stream 2 = Parameter for event recording
Stream Type	Video, video and audio
Resolution	QCIF, CIF
Frame Rate	Number of images saved per second. The maximum number is dependent on the set resolution.
Bit Rate	Data volumes per second. The recommended bit rate is set for each resolution. A bit rate lower than that recommended reduces the recording quality but extends the recording time.
Enable Rec	Activates/deactivates camera recording
PostRec Time	Recording period after an alarm (in seconds)
PreRec Time	Recording period before an alarm (in seconds)
Copy to Camera	Copies the selected settings to other cameras (all or selected)

Note

In addition to these settings, the schedule must be configured to start a recording.

Note

The maximum PreRec/PostRec time is dependent on the set bit rate. The lower the bit rate, the more memory is available for PreRec/PostRec.

Schedule

The schedule is used to specify the recording times and triggers (recording type) for the cameras.
Click on Schedule:

1. Select the day.
2. Tick or untick the “All Day” box. When “All Day” is selected, defined times cannot be entered. The recording type then applies to the entire day.
3. Specify the recording type in the drop-down menu:
   - All Day
   - Motion detection
   - Alarm
   - Motion detection or alarm
   - Motion detection and alarm
4. To make specific time settings, untick the “All Day” box.
5. When making a specific time setting, you can define up to 4 time periods (each from 00:00 to 00:00). The times in the individual periods must not overlap.
6. Select the camera under “Copy to” or select “All”, then confirm by pressing “Copy”.

Note

With All Day, you define time windows where there is continuous recording.

The other events (e.g. motion detection and/or alarm) only trigger the recording after the specific event has occurred.

Manual record

1. Select “Manual Record” in the live view:

2. Select the camera to start manual recording. Click on “Start/Stop” to do so.

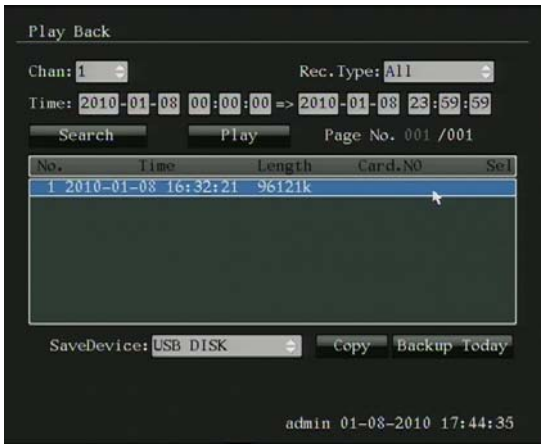
Note

Click on “Start All” or “Stop All” to start or finish recording from all the connected cameras.

Playback

General information

1. Select “Play” in the live view.



2. To search for existing recordings, select the camera, recording type and time period.
3. Click on “Search” to search for relevant recordings. If there are more than 8 search results, they are listed on additional pages. Scroll through the pages by pointing the mouse on the front page number and turning the scroll wheel.
4. Select one or more entries and click on “Play” to play them back.
5. Click on “Copy” to back up the selected entries on USB or “Backup Today” to back up the entire day.

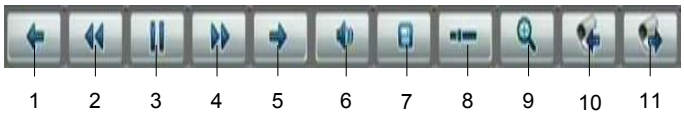
Note

Data backup:

After you start copying, the message “Waiting for USB medium...” appears. Now remove the USB mouse and connect a USB medium to back up the data. Copying starts automatically. You can also use the remote control supplied for the recorder at any time.

Using the control panel

The control panel is used for controlling the running playback. The symbols have the following meaning:



No.	Meaning/function
1	Reverses 30 seconds
2	Reduces the playback speed
3	Playback/Pause
4	Increases the playback speed
5	Advances 30 seconds
6	Switches audio playback on/off
7	Saves the recording
8	Hides the control panel
9	Digital zoom
10	Previous camera
11	Next camera

Note

Data backup:

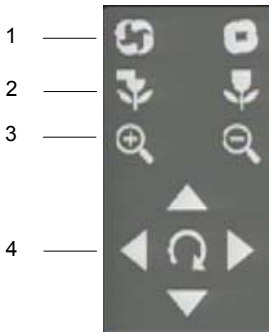
If you press the “Save recording” button, the video currently being shown is saved temporarily until the button is pressed again. You can repeat this procedure as many times as you wish. After exiting Playback, you are prompted to back up on a USB medium the videos saved temporarily. If the videos are not backed up immediately after exiting Playback, they are deleted.

PTZ control

General information

PTZ control is used to access individual PTZ cameras and control them manually.

Using the PTZ control panel



No.	Meaning/function
1	Iris
2	Focus
3	Zoom
4	Controls camera and starts patrol 1

Pop-up menu for mouse operation

Note

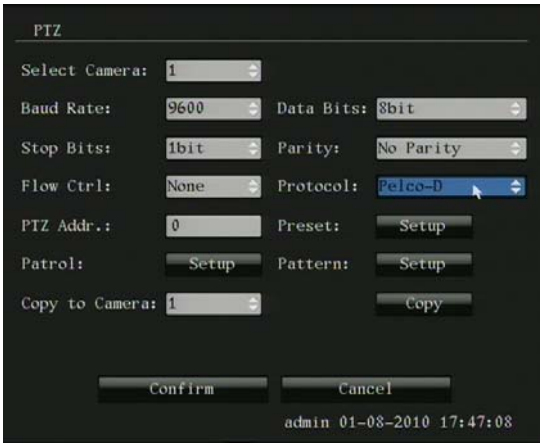
Press the right mouse button when the cursor is positioned on a live image.

The following settings can be made. The arrow pointing to the right indicates that a sub-menu is opened for selection:

Channel	PTZ camera selection
Preset	Selects the set preset
Exit	Exits PTZ mode

PTZ settings

The following settings are necessary on the PTZ cameras:



1. Select the installed camera.
2. Enter the data of the connected camera. Ensure that the data matches that of the PTZ camera.
3. The PTZ ID is used to clearly identify and control the PTZ camera.
4. If several cameras of the same type are connected, then you can copy the settings to the other connections.
5. Exit the settings by pressing Apply and OK.

Note

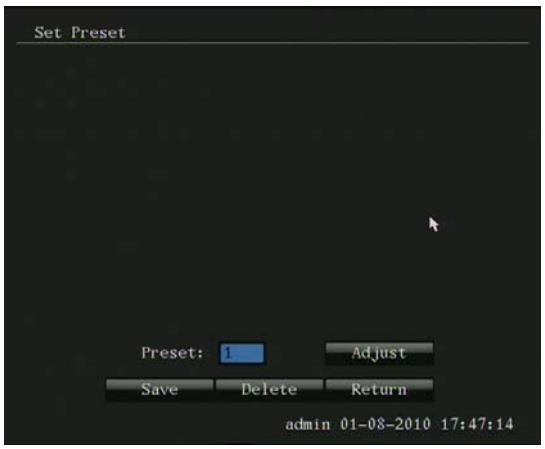
Check the settings of the PTZ cameras.

If a connected camera does not work correctly, then check the entered parameters (ID, baud rate, data bit etc.).

Preset settings

Presets are previously defined locations of a PTZ camera. Various positions can be defined for each PTZ camera. The cameras can then pan and tilt quickly to the corresponding locations.

- Select PTZ in the menu and click on Preset Settings:

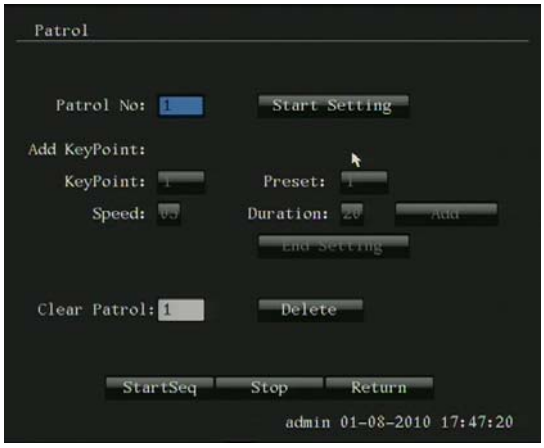


1. Select a preset number between 1 and 128.
2. Select Adjust to change the position of the camera.
3. Right-click to exit the PTZ control and click on Save to store the Preset position.
4. Repeat steps 1–3 to define further presets.
5. Finish your settings by pressing Return.

Patrol settings

Patrols are defined tours from position to position that are accessed in sequence on the PTZ camera. The individual positions are presets, which should be set as detailed before. The cameras can then each be moved in sequence to the corresponding positions at a defined speed, where they remain for a set period of time.

- Select PTZ in the menu and click on Patrol Settings:



1. Press Start Setting.
2. Select patrol no. 1.
3. At Add KeyPoint, select a KeyPoint and assign a preset to it.
4. Set the duration and speed.

- Patrol Preset: Sequence
- Duration: Time that the PTZ camera waits at a position (in seconds)
- Speed: Start-up speed

5. Accept the settings by pressing Confirm.
6. Exit the settings by pressing OK.

Note

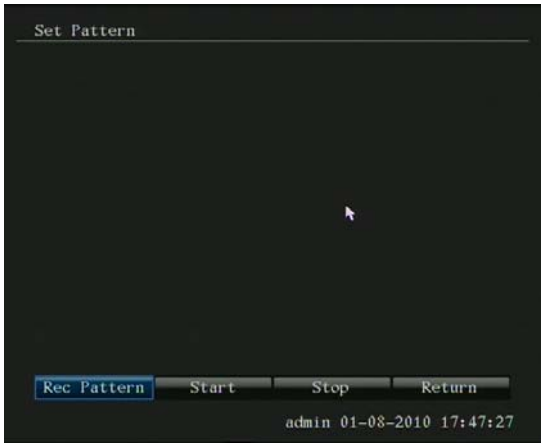
A patrol consists of at least two preset positions. You can set several patrols for one camera.

The set patrol can be tested as follows:
Click on StartSeq and monitor the patrol.
You can stop the patrol at any time by pressing EndSeq and repeat the patrol settings (e.g. to make corrections).

Pattern settings

Patterns are defined tours from position to position that are accessed in sequence on the PTZ camera. Patterns are recorded almost live. The system saves the parameters used whilst you move and adjust the cameras in sequence to the corresponding positions at a defined speed.

- Select PTZ in the menu and click on Pattern Settings:



1. Click on Rec Pattern to start the pattern recording.
2. Using the control panel, adjust the camera position and settings that you wish to record as a pattern.
3. The recording is made until you right-click to finish the recording.

Note

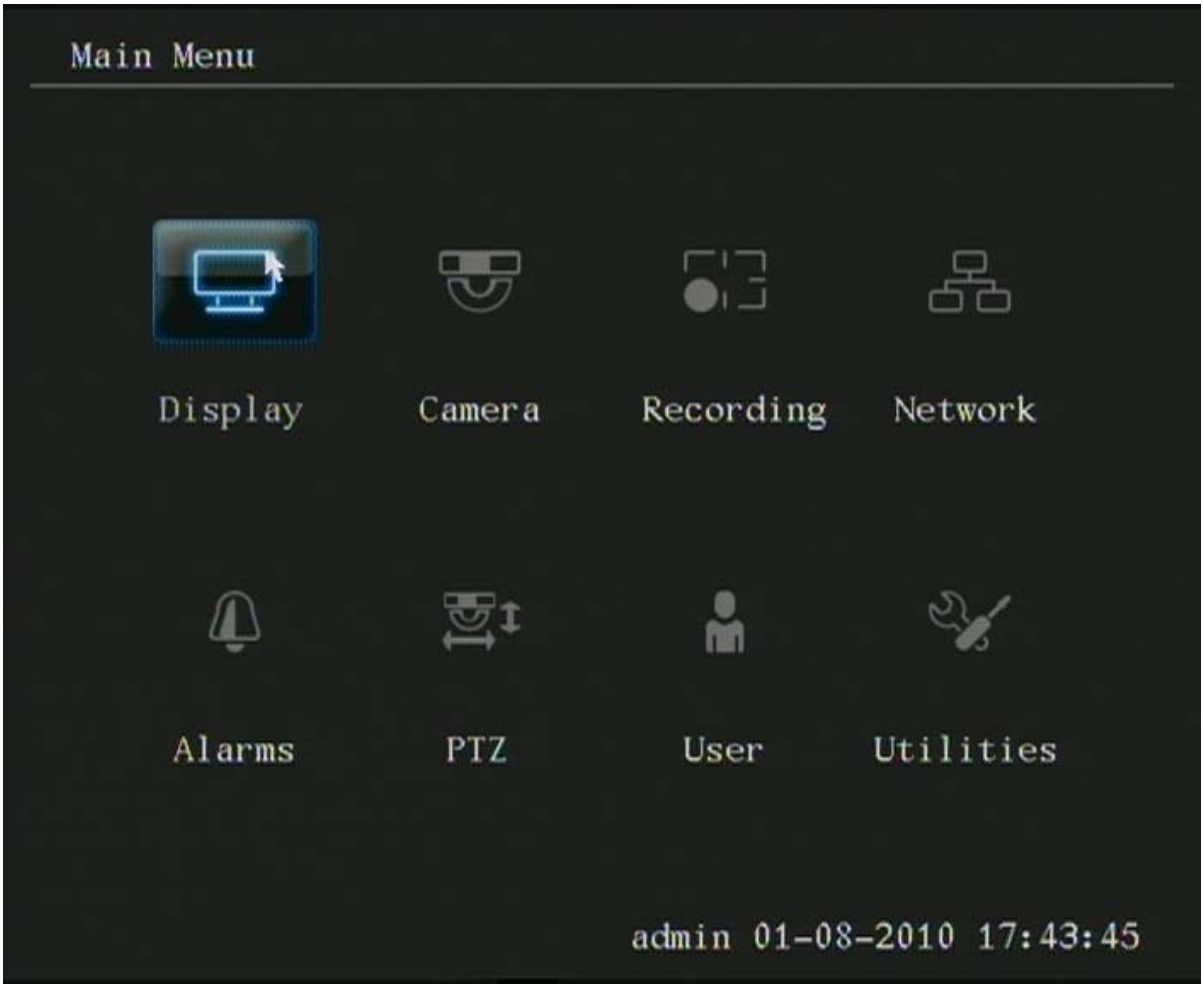
- Start the recorded pattern by calling up the pop-up menu (right-click in the live view of the PTZ camera).
- Click on Set Pattern and click on the desired pattern. The PTZ camera now starts moving to the individual positions. After running through the entire pattern, the process is started again.

Device menu

Menu overview

The following overview shows all menus used to set and control the device.

- Click on a menu to open it.
- Right-click to close the menu overview.



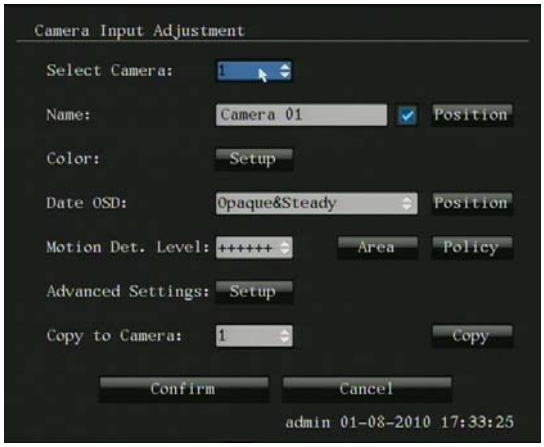
Menu description

Menu	Description
Display	Settings that affect the display
Camera	Camera name-specific settings, motion detection, video signal loss, tamper settings
Recording	Recording parameters and schedule
Network	Network, e-mail, DDNS and PPOE settings
Alarms	Alarm input and output settings
PTZ	PTZ camera settings
User	User administration
Utilities	Load default setting, firmware upgrade, HDD management, switch alarm output, restart/shut down recorder, log search and system info

Live view

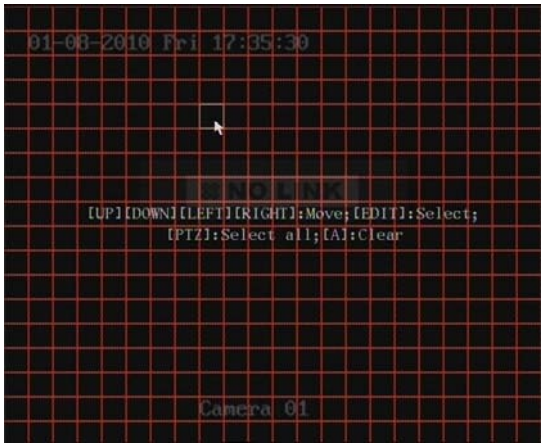
Note
See also the description on page 24.

Camera



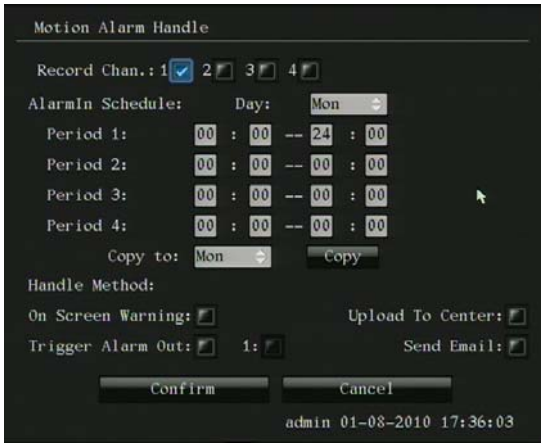
Select Camera	Camera selection
Name	Camera names. Select position in the live image.
Color	Choose settings to adjust the brightness, contrast, colour hue and saturation of the camera image.
Date OSD	Display type and position in the live image.
Motion Det. Level	This sets the sensitivity of the motion detection. The more “+” there are, the more sensitive the motion detection. Select Area to define a motion detection mask and Policy to set the reaction of the recorder after motion is detected.
Advanced	Privacy mask, video signal loss and tampering.
Copy to Camera	Copies the settings.

Motion detection: Setting an area



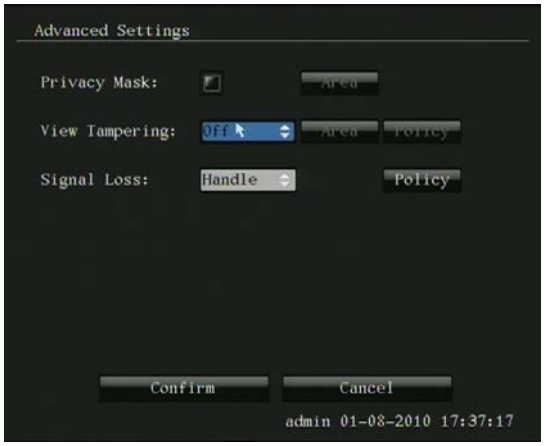
1. Press and hold down the left mouse button and select using red boxes the area to be detected.
2. Right-click to simply set full-screen detection or to exit the menu.

Motion detection: Settings



Record Chan.	Select a camera for recording.
Schedule	Select the period to which the settings apply.
On Screen Warning	Triggering camera is displayed in full-screen mode.
Upload to Center	Notifies a PC with the ABUS DVR client software.
Trigger Alarm Out	Alarm output is triggered.
Send Email	Email is sent.

Advanced settings



Privacy Mask	Hides areas in the live view and recording.
Tampering	Alarm is triggered when camera is covered. The Area and Policy settings correspond to Motion Detection described earlier.
Signal loss	Alarm is triggered when signal is lost.

Recording

Note

See also the description on page 17.

Network

General

It is essential that the network settings are correct when using remote control of the device and surveillance over a PC.

Note

Please read the following basic instructions before setting up the device.

A network is a connection of at least two network-capable devices.

Transmission types:

- Wireline networks (e.g. CAT5 cable)
- Wireless networks (WLAN)
- Other transmission types (Powerline)

All systems have certain similarities, but can also differ in many ways.

Terms and definitions

An overview of relevant terms when using the device in a network can be found below.

Parameter	Setting
IP address	An IP address is the unique address of a network device within a network. This address may only appear once within a network. Certain IP address ranges are reserved for public networks (e.g. the Internet).
Private address range	e.g. 10.0.0.0 – 10.255.255.255 Subnet mask: 255.0.0.0 172.16.0.0 – 172.31.255.255 Subnet mask: 255.255.0.0 192.168.0.0 – 192.168.255.255 Subnet mask: 255.255.255.0
Subnet mask	A subnet mask is a bit mask used for making decisions and assignments during routing. 255.255.255.0 is the standard subnet mask in home networks.
Gateway	A gateway is a network device which allows all other network devices to access the Internet. This can be the computer connected to the DSL modem or – usually – the router or access point within the network.

Parameter	Setting
Name server	The name server is responsible for assigning a unique IP address to a web address or URL (e.g. www.google.de). Also known as DNS (Domain Name Server). When a domain name is entered into a browser, the DNS searches for the corresponding IP address of the server and forwards the query on. The IP of the provider's DNS can be entered here. However, it is often sufficient to select the IP of the gateway. This then forwards the queries independently to the provider DNS.
DHCP	The DHCP server automatically assigns the IP address, subnet mask, gateway and name server to a network device. DHCPs are available in current routers. The DHCP service must be specially set and activated (see the corresponding manual for more information). Note: When using fixed IP addresses and a DHCP server, make sure that the fixed IP addresses are outside the address range assigned by DHCP. Otherwise, problems could occur.
Port	A port is an interface used for communication by different programs. Certain ports are fixed (21: Telnet, 23: FTP), whilst others can be freely selected. Ports are important for different applications (e.g. external access to the device over a browser).
MAC address	The MAC address (Media Access Control or Ethernet ID) is the specific hardware address of the network adapter. This is used for the unique identification of the device in a computer network.

Network layout

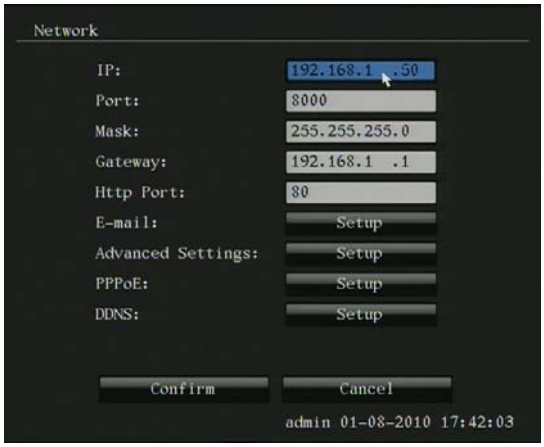
The device must be physically connected to the network over a CAT5 cable (see connections on page 3). Several switches, routers and access points can be connected to each other. Firewalls and other security software can affect the network.

Warning

When using a router, the network clients (e.g. the recorder) can be connected to the Internet and vice versa.
Make sure to use protective measures to prevent unauthorised external access (e.g. firewall, changing passwords, changing ports)!

Network configuration

The device must be configured using the Network menu.

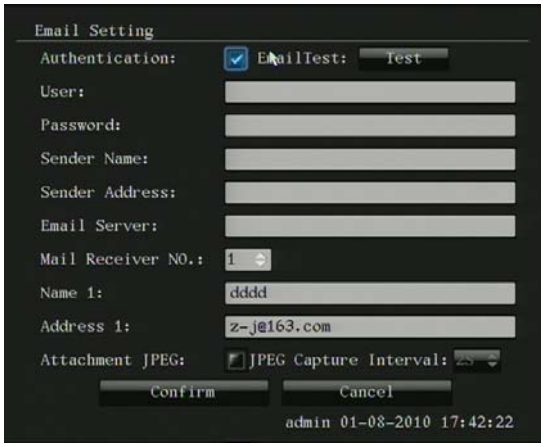


IP	IP address of the recorder in the network (manual assignment). To assign the IP address by DHCP, enter the IP address as 0.0.0.0. The recorder must then be restarted.
Port	Port 8000 is the standard port for accessing the recorder via the network.
Mask	Usually 255.255.255.0.
Gateway	Address of the gateway for Internet access.
Http Port	Port 80 is the standard port for accessing the recorder web server.
E-mail	Used to specify the e-mail settings which are sent as an email to a specific address in the event of an alarm.
Advanced	MAC address, network speed, DNS, Multicast and NTP.

PPPoE	PPPoE is used on ADSL connections and when using modems in Germany. Click on Set to enter the access data (ID and password) for your provider.
DDNS	Server for Dynamic Domain Name System management. Used for updating host names or DNS entries.

Setting up an email address

In the event of an alarm, the device can send a message by e-mail. Enter the email configuration here:



Parameter	Setting
Authentication	Tick the box when authentication is made on the server of the Internet provider
EmailTest	Sends a test email
User	E-mail account at the provider
Password	Password connected to the email account
Sender Name	Name of the sender
Sender Address	Corresponding e-mail address for the e-mail account
Email Server	SMTP server of the sender's e-mail account
Mail Receiver No.	Select three possible recipients for the email
Name	Enter the name of the recipient here
Address	Enter the e-mail address of the recipient here
Attachment JPEG	Tick the box when camera images should also be sent with the email as photo files
Interval	Interval with which images are sent

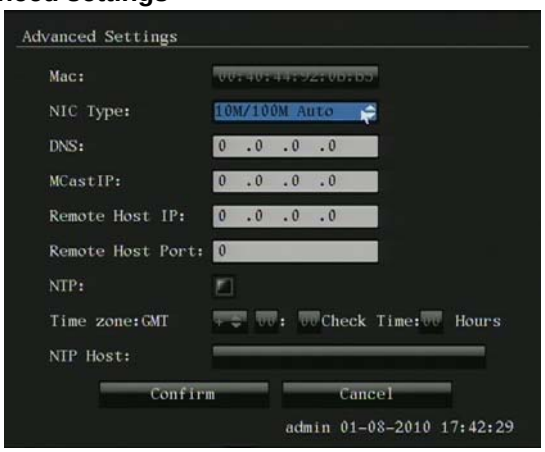
1. Enter the parameters of the e-mail notification.
2. Click on **Test** to send a test email.

Note

The device sends an e-mail to the specified recipients.

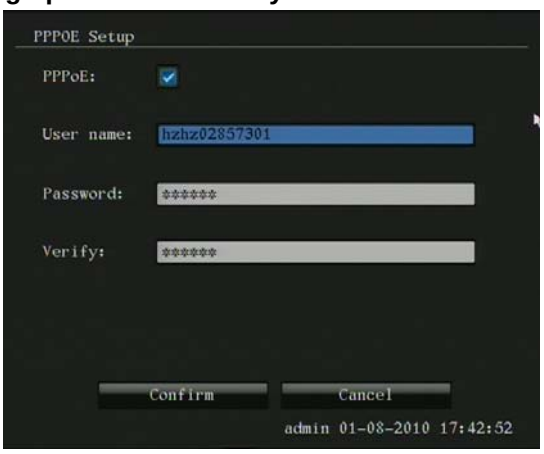
If the e-mail is not received, check the settings and correct them.
If necessary, check the spam filter of your email client.

Advanced settings



MAC	MAC address of the recorder
NIC type	Transmission speed of the network connection
DNS	Fixed IP address when PPPOE is used
MCastIP	To minimise traffic, you can also enter the multicast IP. The IP address must correspond with the address in the video surveillance software! The IP range available is limited to 224.0.0.0 - 239.255.255.255.
Remote Host IP	IP address of the PC to which a message is sent if an event occurs. “Upload to Center” must be selected at Policy to allow this and the ABUS DVR client software running on the PC.
Remote Host Port	Port address of the PC to which a message is sent if an event occurs.
NTP	Network Time Protocol Activates server for time synchronisation.
Time zone	Recorder time zone
NTP Host	IP address of the computer for time synchronisation

Setting up PPPOE manually



1. Tick the PPPOE box, enter the user name (Internet access ID) and password, then confirm the password.
2. Apply the settings by pressing Confirm.

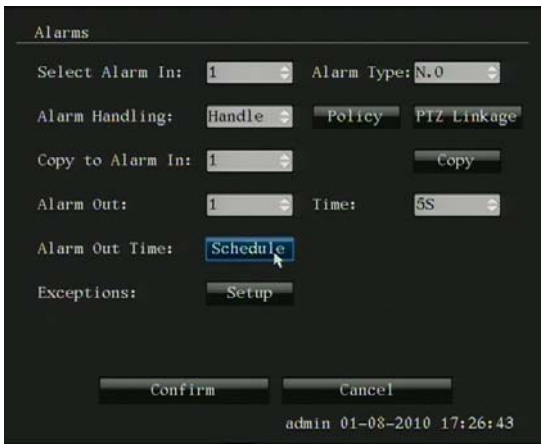
Setting up DDNS manually

1. To use the ABUS DDNS function, you must first set up an account under www.eytronserver.com. Please note the FAQs on the website when doing this.
2. Tick the DDNS box, enter “ABUS DDNS” as the “DDNS Type”, then enter “62.153.88.107” under “Server Address”.
3. Apply the settings by pressing Confirm. The IP address of your Internet connection is now updated on the server every minute.

Note

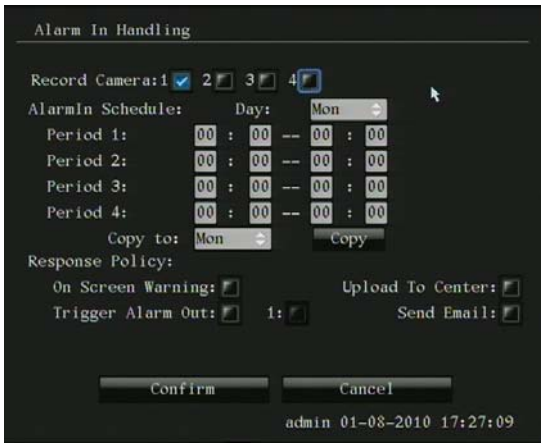
To be able to access the recorder externally, port forwarding must be set up in your router.

Alarms



Select Alarm In	Select the alarm input to be set, from 1 to 4.
Alarm Type	N.O.: Normally open circuit N.C.: Normally closed circuit
Alarm Handling	This defines whether a policy is performed in the event of an alarm.
Policy	This sets the event policy for the alarm input.
PTZ Linkage	This specifies whether the PTZ camera starts up a preset.
Copy to Alarm In	Copy the alarm settings to further alarm inputs.
Alarm Out	Displays the alarm output (fixed value).
Time	Enter here how long the alarm output is switched. If you select “Manual”, the alarm output is only deactivated when “Alarm output stop” in the “Utilities” menu is confirmed.
Alarm Out Time	This specifies in the schedule when the alarm output is activated.
Exceptions	You can define policies here for various events, e.g. email notification.

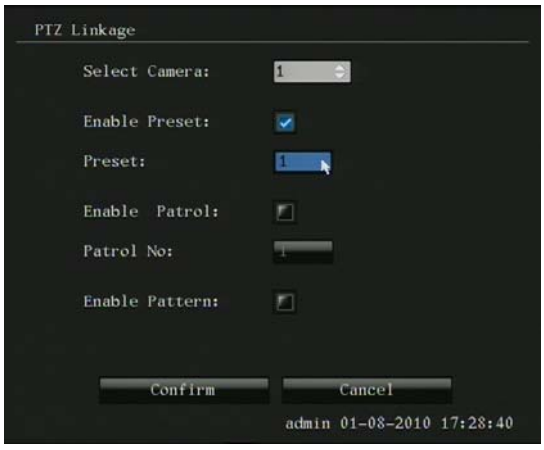
Alarm In Handling



In the event that the alarm input is triggered, the following policies can be started:

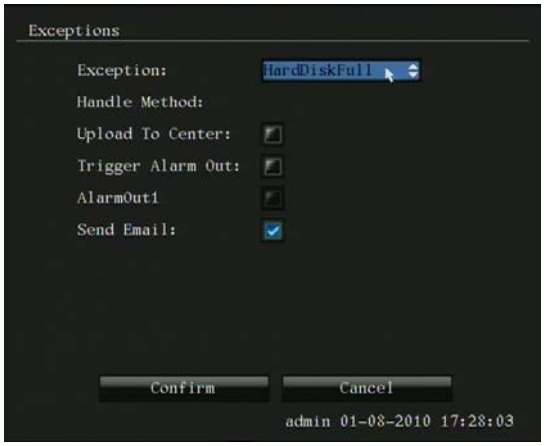
Parameter	Setting
Record Camera	Select a camera for recording.
Schedule	Select the period to which the settings apply.
On Screen Warning	Triggering camera is displayed in full-screen mode.
Upload to Center	Notifies a PC with the ABUS DVR client software.
Trigger Alarm Out	Alarm output is triggered.
Send Email	Email is sent.

PTZ



You can define here whether a PTZ camera carries out a policy as soon as an alarm input is triggered.

Exceptions



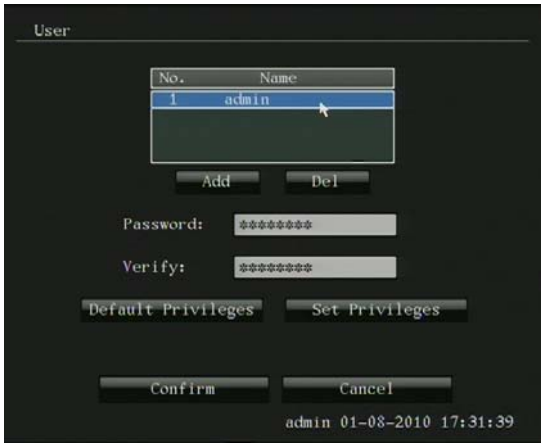
Parameter	Setting
Exception	Event requiring a reaction.
Upload to Center	Notifies a PC with the ABUS DVR client software.
Trigger Alarm Out	Alarm output is triggered.
Send Email	Email is sent.

PTZ

Note

See description on page 20 .

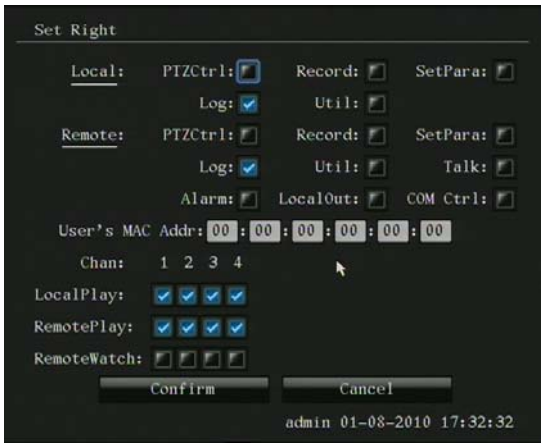
Users



You can manage up to 16 users with different privileges here.

Default Privileges	Selected user receives the default privileges.
Set Privileges	You can set the privileges for the selected user here.

Setting privileges



You can define here the Local and Remote privileges for the user. Click “Default Privileges” to assign the Default Privileges to the selected user.

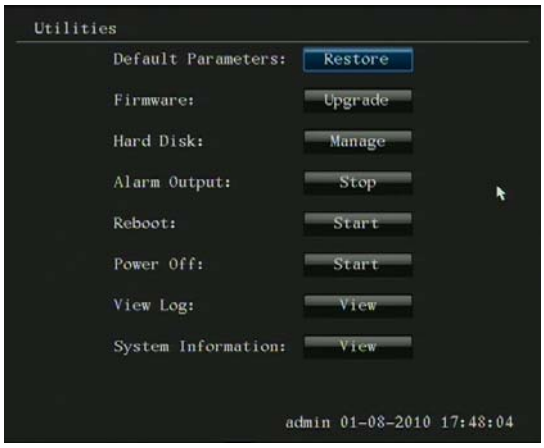
Note

The user can make the settings locally (i.e. on the device) or change the parameters.

The user can access the device remotely via the network connection.

Parameter	Setting
PTZCtrl	Changes PTZ settings
Record	Starts/finishes manual recording
SetPara	Changes settings
Log	Searches log
Util	Updates firmware, formats HDD, restarts and shuts down recorder
Talk	Voice message via network
Alarm	Switches alarm output
LocalOut	Controls video output
RS232	No function
User’s MAC Addr	You can enter the MAC address of the client PC here. From now on, only this PC with the MAC address has access.
LocalPlay	Determines which cameras are displayed locally during playback.
RemotePlay	Determines which cameras are displayed remotely during playback.
RemoteWatch	Determines which cameras are displayed remotely in Watch.

Utilities



Default Parameters	Loads default parameters
Firmware	Carries out a firmware upgrade
Hard Disk	Formats HDDs
Alarm Output	Switches alarm output manually
Reboot	Reboots recorder
Power Off	Switches off recorder
View Log	Searches log
System Information	Device name, model, serial number, firmware version, encode version

Firmware

Note

You can upgrade the firmware via FTP in the local network or by USB. After you select the USB, the message “Waiting for USB medium...” appears. Now remove the USB mouse and connect a USB stick with the new firmware file. The upgrade process starts automatically. You can also use the remote control supplied for the recorder at any time.

Troubleshooting

Before calling the Service department, read the following information to determine the possible cause of a malfunction.

Malfunction	Cause	Solution
No power	Mains cable not connected	Connect the mains cable securely to the socket
	Power switch set to OFF	Turn the power switch to ON
	No current in the power socket	Use another device on the socket, where necessary
No image	Screen not set for reception	Set the correct video input mode until an image from the recorder appears
	Video cable not connected properly	Connect the video cable securely
	Connected modem is switched off	Switch on the monitor
Camera images black and white and blurred, despite colour camera being installed	If no cameras are connected when the recorder is started, then the recorder is started automatically in NTSC mode. If only PAL colour cameras are connected, then these are displayed as black and white and blurred.	Connect the cameras before starting the recorder. The recorder automatically detects whether a PAL or NTSC signal is present and switches to the correct mode. You can set the mode.
No sound	Audio cables not connected properly	Connect the audio cables securely
	Devices connected over the audio cables are not switched on	Switch on the devices connected over the audio cables
	Audio connection cable is damaged	Replace the cable
HDD not working	Connection cables not connected properly	Connect the cables securely
	HDD defective or not system-compatible	Replace with a recommended HDD
USB port not working	Device not supported	Connect a compatible USB medium (USB 2.0)
	USB hub is in use	Connect the USB medium directly
Network access not possible	Network cable connections are loose	Connect the network cable
	Network settings are incorrect (DHCP, IP address etc.)	Check the network configuration and correct it, when necessary (see page **Fehler! Textmarke nicht definiert.**)
Remote control not working	Batteries inserted with the wrong polarity or are empty	Replace the batteries. To control the device with the remote control, point it at the remote control sensor on the device
	Remote control too far away from the recorder	Use the remote controller within 7 metres from the device
	Signal blocked by obstruction between the remote control and recorder	Remove the obstruction
	Lighting too bright or fluorescent tubes in use?	Switch off strong fluorescent lighting in the immediate vicinity
Recording not possible	No HDD or HDD is not initialised	Install and initialise the HDD
Sudden deactivation of the device	Temperature inside the device is too high	Clean the device and remove any obstructions from the ventilation area

Index

Address range *25*
Alarm 18
Alarm input *29*
  PTZ *29*
Alarms *29*
Authentication *27*
Batteries 36
Camera *24*
Camera display
  Views 15
Connections 12
Control panel *19*
  PTZ *20*
  PTZ pop-up menu *20*
DDNS *28*
Device menu *23*
Device overview 3
DHCP *26*
Disposal 36
Email *27*
Exceptions *30*
Gateway *25*
HDD 39
  Capacity 35
  Safety 39
Installation location 9
IP address *25*
Live view 15, *24*
  Settings 15
MAC address *26*
Main menu *23*
Menu overview *23*
Monitor
  Displays 14
Motion detection 18
Mouse
  Pop-up menu 15
Mouse operation 13
N.C. *29*
N.O. *29*
Name server *26*
Network *25*
  Configuration *26*
  Email *27*
On-screen keyboard 14
Operating elements 12
Playback *19*
  Control panel *19*
Pop-up menu 15
Port *26*
PPPOE *28*
Preset *20*
PTZ *30*
  Patrol *20*
  Patrol settings *21*
  Pattern settings *22*
  Preset *20*
  Preset settings *21*
  Settings *20*
PTZ control *20*
Record
  Manual record 18
Recording *25*
  Schedule 18
Remote control 4, 13
Scope of delivery 11
Setting the date/time 16
Setting the preview 16
Set-up *23*
Storage capacity 35
Subnet mask *25*
Switching on 14
Symbols 8
User
  Setting privileges *30*, *31*
Users *30*
Utilities *31*

Technical data

TVVR20000 4 Channel 8" Combo DVR		
Video compression	H.264	
Camera inputs	4	
Monitor	8"	
Monitor Resolution	4CIF	
Camera outputs	-	
Monitor outputs	Monitor Out: 1 x BNC (1.0 V p-p, 75 Ω); Spot Out: 1 x BNC (1.0 V p-p, 75 Ω)	
Operating mode	Triplex	
Resolution live view	4CIF	
Resolution recording / Camera	PAL: 352 x 288 (CIF) @ 25 fps 704 x 288 (2CIF) @ 12 fps 528x384 (DCIF) @ 12f ps 704 x 576 (4CIF) @ 6 fps	NTSC: 352 x 240 (CIF) @ 30 fps 704 x 288 (2CIF) @ 12 fps 528x320 (DCIF) @ 12 fps 704 x 480 (4CIF) @ 6 fps
Compression levels	6	
Pre- / post-alarm buffer	0~30 Sec. / 5 - 600 Sec.	
Storage	1 x SATA HDD	
Backup	USB 2.0	
Viewing modes	1 / 4	
Recording modes	Manual, schedule, motion detection, alarm, motion and alarm, motion or alarm	
Search modes	By date & time	
Alarm inputs (NO/NC)	4	
Relay outputs	1 (Loading capacity: 12VDC/1A)	
User levels	2 user levels (max. 16 users)	
Network connector	RJ45 10/100 Mbit	
Simultaneously remote connection	24 camera connections	
Network functions	Remote live view, playback, backup, setup	
DDNS	Dyndns, ABUS DDNS	
NTP	√	
PTZ Control	RS-485	
PTZ protocols	PELCO-D, PELCO-P, Samsung, LG-MULTIX	
Alerting	OSD signal, Email	
Audio	Audio In: 1 x RCA (2.0 V p-p, 1000Ω) Audio Out: 1 x RCA (600Ω)	
Control	Mouse, Remote control	
Software	Client Software	
OSD languages	German, English, French, Dutch, Danish	
Power supply	12 VDC	
Power consumption	<40W (without HDD)	
Operating temperature	-10°C ~ + 55°C	
Humidity	10%~90%	
Dimensions (WxLxH))	249x210x205mm	
Weight	5 kg	
Certificates	CE	

Subject to alterations and errors.

The dimensions are approximate values.

Company names and associations listed here are trademarks or registered trademarks of their respective owners.

HDD storage capacity

In addition to the actual storage capacity of the installed HDD, the required storage space for recording and surveillance depends on the set resolution and frame rate of the recording.

TVVR20000

Continuous recording, 1 x 1 TB HDD:

Number of cameras	Resolution	FPS	Recommended bit rate	Recording time
4	CIF	25	512	**41 days, 5 hours**
4	2CIF	12	512	**41 days, 5 hours**
4	DCIF	12	640	**41 days, 5 hours**
4	4CIF	6	512	**41 days, 5 hours**

30 days continuous recording:

Number of cameras	Resolution	FPS	Recommended bit rate	Number of HDDs
4	CIF	25	512	**1 x 1 TB**
4	2CIF	12	512	**1 x 1 TB**
4	DCIF	12	640	**1 x 1 TB**
4	4CIF	6	512	**1 x 1 TB**

Disposal

Information on the EU directive on waste electrical and electronic equipment

To protect the environment, do not dispose of the device with domestic waste at the end of its service life. It can be disposed of at one of the appropriate collection points in your country. Please obey your local regulations when disposing of material.

Dispose of the device in accordance with EU directive 2002/96/EC – WEEE (Waste Electrical and Electronic Equipment). If you have any questions, please contact the department of your local authority which is responsible for waste disposal. Used equipment can be disposed of, for example, by your local or municipal authority, the local waste disposal company or your dealer.

Information on handling batteries

- Always insert batteries with the correct polarity. Never attempt to recharge the batteries supplied and do not throw them into naked flames under any circumstances. Do not use different batteries at the same time (old and new, alkaline and zinc-carbon etc.). Remove the batteries if the device is not used for a long period of time. If used improperly, there is a risk of explosion and leaking batteries!
- Take environmental protection into account – used batteries should not be disposed of in domestic waste! They must be taken to a collection point for used batteries.
- Make sure that batteries are kept away from small children. Children may put batteries in their mouths and swallow them. This can cause serious harm to their health. If this happens, consult a doctor immediately.
- Do not charge normal batteries, heat them up or throw them into naked flames (they may explode).
- Change low batteries in good time.
- Always change all the batteries at the same time and use batteries of the same type.

Important

Leaky or damaged batteries can cause chemical burns on contact with the skin.

- In this case, wear protective gloves.
- Clean the battery compartment with a dry cloth.

Important information on disposing of batteries

Your product uses batteries which are subject to the European directive 2006/66/EC and may not be disposed of with domestic waste.

Find out about the regulations for the separate collection of batteries which apply in your country.

Proper disposal of batteries helps prevent harm to health and the environment.

Batteries that contain harmful chemicals are labelled with these signs:

Pb = battery contains lead

Cd = battery contains cadmium

Hg = battery contains mercury

Information on the European RoHS directive

The device complies with the RoHS directive.

Compliance with the RoHS directive means that the product or component does not contain more than the following maximum concentrations of the following substances in homogeneous materials, unless the substance is part of an application that is excluded from the RoHS directive:

a) 0.1% lead (by weight)

b) Mercury

c) Hexavalent chromium

d) Polybrominated biphenyl (PBB) and polybrominated diphenyl ether

e) 0.01% cadmium (by weight)

Glossary

Overview of specialist terms

1080i

HDTV image signal with 1080 pixels and interlaced display.

16:9

Cinematographic aspect ratio on widescreen displays.

720p

HDTV image signal with 1280 x 720 pixels and progressive display.

CIF

Common Intermediate Format

Originally planned for converting PAL to the NTSC standard. CIF corresponds to a video resolution of 352 x 288 pixels (2CIF = 704 x 288 pixels; 4CIF = 704 x 576 pixels).

CINCH

Socket type used for analogue audio or CVBS video signals.

CVBS

Colour, Video, Blank and Sync – The simplest variation of video signals (also known as composite video). The image quality is comparatively low.

DDNS

Dynamic Domain Name System entry

Network service which provides and updates IP addresses of its clients in a database.

DHCP

Dynamic Host Configuration Protocol

Network protocol which allows the automatic connection of devices (clients) in existing networks. DHCP servers (e.g. Internet routers) automatically assign the IP address, network mask, gateway, DNS server and WINS server (when required). Only the automatic acquisition of IP addresses must be activated for the client in this case.

Domain

Name used for the identification of websites on the Internet (e.g. www.abus-sc.de).

Dual stream

Dual stream is a video transmission method. A high-resolution recording and lower-resolution transmission are made over the network, for example. The main stream has a 4CIF resolution and the sub-stream has a CIF resolution.

DVR

Digital Video Recorder – A device used for recording different video and audio sources (analogue, digital). The data is compressed for recording and saved on hard disk drives (HDD).

GIGABYTE

Unit of capacity for storage media (HDD, USB, SD/MMC cards).

H.264

(MPEG-4 AVC) – Standard method for the highly-efficient compression of video signals. Used on Blu-ray discs or video conference systems, for example.

HDD

Hard Disk Drive

Digital data storage on computers or DVRs.

HDVR

Hybrid DVR – DVR used for recording analogue cameras and network cameras.

http

Hypertext Transfer Protocol

Method for transmitting data across networks. Primarily used for displaying websites in a browser.

Inch

Typical unit of screen size. One inch is equivalent to 2.54 centimetres. The most common sizes of 16:9 displays are 26 inch (66 cm), 32 inch (81 cm), 37 inch (94 cm), 42 inch (106 cm), 50 inch (127 cm) and 65 inch (165 cm).

INTERLACED

Method for improving the picture quality of a video signal without consuming extra bandwidth (scan pattern on every second line).

IP address

An address in the computer network based on the Internet protocol. Allows different devices to identify themselves in a network so that they are accessed specifically.

JPEG

Compression method for photo images with minimal loss. Most digital cameras save photos in JPEG format.

MPEG

Moving Picture Experts Group. International standard for the compression of moving images. On some DVDs, the digital audio signals are compressed and recorded in this format.

NTP

Network Time Protocol

Method for synchronising the time across networks. SNTP (Simple Network Time Protocol) is also available, offering a simplified protocol.

NTSC

Standard colour television format in the USA. The method is different from the European PAL system in cer-

tain ways. A full-screen NTSC image is comprised of 480 visible lines and a total of 525 lines. 60 half-images are displayed per second. Compared to PAL, the system is more susceptible to colour errors.

PAL

Phase Alternating Line – European colour TV system. Uses 576 visible image lines. Together with the lines used for signal management, a full-screen image is comprised of 625 lines. 50 half-images are displayed per second. The phase position of the colour signal changes from line to line in the image.

PANEL

Interior of a flatscreen display (e.g. LCD or plasma panels).

PC

Personal Computer – Can be used as a remote site, either with the software supplied or over a browser.

Pixel

Short for “picture element”, the smallest unit for digital image transmission or display.

PIP

Picture in Picture – Where two signal sources are shown on the screen at the same time. The second signal source is stored above the first.

PPPoE

PPP over Ethernet (point-to-point protocol)

Network transmission method used for establishing a connection over dial-up lines. Used in ADSL connections, for example.

PROGRESSIVE

Method for displaying, storing or transmitting moving images in which all the lines of each frame are drawn in sequence. This is in contrast to the interlacing used in traditional television systems.

PTZ

Pan-Tilt-Zoom

Pan, tilt and zoom function on motor-driven cameras.

RESOLUTION

Normal PAL television systems show images in 576 lines, normally with 768 pixels. HDTV works with at least 1280 x 720 pixels.

SCREEN SIZE

Size of the display from the bottom-left corner to the top-right corner in inches or centimetres.

Browser

Program for viewing websites on the Internet.

USB

Universal Serial Bus

Serial bus connection, used for connecting media whilst in operation. Maximum data rate for USB 2.0: approx. 320 Mbit/s (approx. 40 MB/s).

VGA

Video Graphics Array – Standard interface for analogue video signals in PCs (primarily deals with RGB signals).

Internal HDD

The internal hard disk drive (HDD) is very sensitive. Operate the device according to the following instructions in order to avoid drive errors. Important recordings should be backed up on external media to avoid unexpected data loss.

Note

- Do not move the device during operation.
- Moisture inside the device can condense and lead to HDD malfunctions.
- When the device is turned on, never remove the mains plug from the socket or interrupt the power supply using the safety switch.
- Do not move the device immediately after switching it off. To move the device, carry out the following steps:
  1. Wait until OFF has been shown on the display for at least two minutes.
  2. Remove the mains plug from the socket.
  3. Move the device.
- Data on the HDD can be lost in the event of a power failure during operation. Use an uninterruptible power supply (UPS)!
- The HDD is very sensitive. Improper use or unsuitable surroundings can damage the HDD after some years of use. This may be indicated by the playback stopping unexpectedly or visible “mosaic” effects in the image. In some circumstances, there are no prior signs of a HDD malfunction.
- In the event of a malfunction, no recordings can be played. The HDD must be replaced in this case.

ABUS 8” Combo Digital Recorder

TVVR20000

Manufacturer:
ABUS Security-Center GmbH & Co. KG
Linker Kreuthweg 5
86444 Affing (Germany)